

REPORT ON BOILERS.

No. 80625

Received at London Office 9th 1926

Date of writing Report

1926

When handed in at Local Office

24/9/1926

Port of

Newcastle-on-Tyne

No. in Survey held at

Newcastle-on-Tyne

Date, First Survey

22 March

Last Survey

16 Sept 1926

on the

New Steel S.S. Greathope

(Number of Visits)

(Gross Tons)

Master

Built at Buntisland

By whom built Buntisland S.S. Co. Ltd.

Yard No. 137

When built 1926

Engines made at

Newcastle-on-Tyne

By whom made

North Eastern Marine Engineering Co. Ltd.

Engine No. 2622

When made 1926

Boilers made at

ditto

By whom made

ditto

Boiler No. 2622

When made

Nominal Horse Power

Owners

Newbiggin Steam Shpg Co Ltd

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

D. Nicholls & Sons Ltd.

(Letter for Record S)

Total Heating Surface of Boilers

5210 sq ft

Is forced draught fitted

No

Coal or Oil fired

Coal

No. and Description of Boilers

Two single-ended Cylindrical

Working Pressure 180 lbs.

Tested by hydraulic pressure to

320 lbs

Date of test

1/7/26

No. of Certificate

113

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

64.5

No. and Description of safety valves to each boiler

Two Spring loaded

Area of each set of valves per boiler

per Rule 16.986 sq ft

as fitted 19.719 sq ft

Pressure to which they are adjusted

185

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No

Smallest distance between boilers or uptakes and bunkers or woodwork

1'-10"

Is oil fuel carried in the double bottom under boilers

No

Smallest distance between shell of boiler and tank top plating

1'-6"

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

15'-9 7/16"

Length

11'-0"

Shell plates: Material

Steel

Tensile strength 28-32 Tons

Thickness

1 3/32"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end Double

Long. seams

Table S.S.

Diameter of rivet holes in

circ. seams 1 5/16"

long. seams 1 5/16"

Pitch of rivets

9 5/16"

3 3/4"

Percentage of strength of circ. end seams

plate 65

rivets 46.2

Percentage of strength of circ. intermediate seam

plate

Percentage of strength of longitudinal joint

plate 85.9

rivets 87.3

combined 89.

Working pressure of shell by Rules

180 lbs

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

Three Deighton

Material

Steel

Tensile strength

26-30 Tons

Smallest outside diameter

47 7/16"

Length of plain part

top

bottom

Thickness of plates

crown 1 1/2"

bottom 3/32"

Description of longitudinal joint

weld

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

182 lbs

End plates in steam space:

Material Steel

Tensile strength 26-30 Tons

Thickness 1 3/32"

Pitch of stays 28 1/2" x 20 1/4"

How are stays secured

Double nuts

Working pressure by Rules

181 Tons

Tube plates: Material

front Steel

back Steel

Tensile strength 26 to 30 Tons

Thickness 1 5/16"

3/4"

Mean pitch of stay tubes in nests

10 1/4"

Pitch across wide water spaces

14 1/2"

Working pressure

front 181 lbs

back 182 lbs

Girders to combustion chamber tops:

Material Steel

Tensile strength 28 to 32 Tons

Depth and thickness of girder

at centre

9 1/8" - 1 5/8"

Length as per Rule

33"

Distance apart

11 1/2"

No. and pitch of stays

in each

Two 10"

Working pressure by Rules

183 lbs

Combustion chamber plates: Material

Steel

Tensile strength

26-30 Tons

Thickness: Sides

25"

3/32"

Back

25"

3/32"

Top

25"

3/32"

Bottom

1"

Pitch of stays to ditto:

Sides 11 1/2" x 10"

Back 11" x 10 1/2"

Top 11 1/2" x 10"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

185 lbs

Front plate at bottom: Material

Steel

Tensile strength 26-30 Tons

Thickness

1 5/16"

Lower back plate: Material

Steel

Tensile strength 26-30 Tons

Thickness 1 5/16"

3/32"

Pitch of stays at wide water space

14 1/2"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

182 lbs

Main stays: Material

Steel

Tensile strength 28 to 32 Tons

Diameter

At body of stay 3 1/2"

Over threads 3 3/4"

No. of threads per inch

Six

Area supported by each stay

577.125 sq ft

Working pressure by Rules

187 lbs

Screw stays: Material

Steel

Tensile strength 26-30 Tons

Diameter

At turned off part 1 3/8"

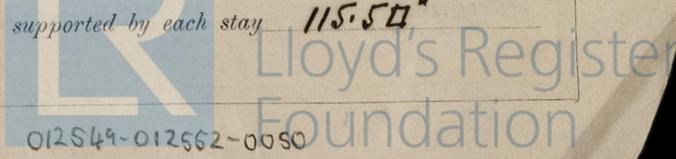
Over threads

No. of threads per inch

Nine

Area supported by each stay

115.5 sq ft



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Working pressure by Rules **184 lbs.** Are the stays drilled at the outer ends **no.** Margin stays: Diameter { At turned off part, or Over threads **2"** ✓
 No. of threads per inch **nine** Area supported by each stay **181.25 sq"** Working pressure by Rules **180 lbs.**
 Tubes: Material **Iron** ✓ External diameter { Plain **3 3/4"** ✓ Stay **3 3/4"** ✓ Thickness { **no. 8 11.5** ✓ **7/8" - 5/16" - 1/2"** ✓ No. of threads per inch **nine** ✓
 Pitch of tubes **4 1/2" x 4 3/8"** ✓ Working pressure by Rules **plain 220 lbs Stay 208 lbs** Manhole compensation: Size of opening
 End plate **16" x 12"** ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged **4 5/16"** ✓ Steam Dome: Material **none** ✓
 Tensile strength Thickness of shell Description of longitudinal joint
 Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets
 Internal diameter Working pressure by Rules Thickness of crown No. and diameter
 stays Inner radius of crown Working pressure by Rules
 How connected to shell Size of doubling plate under dome Diameter of rivet holes and
 of rivets in outer row in dome connection to shell

Type of Superheater **North Eastern Smoke Tube** ✓ Manufacturers of { Tubes **Weldless Steel Tube Co. Ltd. Wednesfield.** ✓ Steel castings **none (cogged slabs).**
 Number of elements **122.** Material of tubes **Solid drawn steel** Internal diameter and thickness of tubes **1 1/2" 2.5" 2.5"** ✓
 Material of headers **Mild steel** ✓ Tensile strength **26-30 tons** ✓ Thickness **3/8"** ✓ Can the superheater be shut off
 the boiler be worked separately **yes** ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **yes** ✓
 Area of each safety valve **3-1X16"** ✓ Are the safety valves fitted with casing gear **yes** ✓ Working pressure as
 Rules **180 lbs** ✓ Pressure to which the safety valves are adjusted **185 lbs** ✓ Hydraulic test pressure
 tubes **1500 lbs sq"** ✓ Headers **540 lbs sq"** ✓ and after assembly in place **450 lbs sq"** ✓ Are drain cocks or valves fit
 to free the superheater from water where necessary **yes** ✓

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with **yes.**

The foregoing is a correct description,
THE NORTH EASTERN MARINE ENGINEERING CO., LTD.
Blunthorpe Manufacturer
 Are the approved plans of boiler and superheater forwarded herewith **yes** ✓
 (If not state date of approval.)
 Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These Boilers have been built under Special Survey. Materials & workman
 good. Hydraulic Tests satisfactory. They are efficiently installed &
 secured in the vessel, they were examined under steam & their safety
 valves adjusted as above.

Survey Fee £ *See Mech report* When applied for, 192
 Travelling Expenses (if any) £ *report* When received, 192

William Dutton & R. L. Arneer (per W.D.)
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUES. 28 SEP 1926**

Assigned *see Minute on attached*
F. E. Rpt. due 80625

